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FUNCTION FLOW ANALYSIS OF THE LAND FORCE OPERATIONS PLANNING PROCESS

by:

L. Bruyn, T. Lamoureux & B. Vokac

Human*systems*® Incorporated
111 Farquhar St., 2nd floor
Guelph, ON N1H 3N4

Project Manager:
Kim Iwasa-Madge, P.Eng., CHFP
(519) 836 5911

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On behalf of
DEPARTMENT OF NATIONAL DEFENCE
Defence Research and Development Canada Toronto
Defence R&D Canada – Toronto
1133 Sheppard Avenue West
P.O. Box 2000
Toronto, Ontario
Canada M3M 3B9

DRDC-Toronto Scientific Authority:
David J. Bryant
(416) 635-2000 ext. 3141

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Abstract

The purpose of this project is to perform an historical/organizational analysis of the Land Force Operations Planning Process (OPP) with a focus on the brigade level. Specifically, this project documents the OPP as established in doctrine and taught by the Land Force, describe contexts in which the OPP is applied, and identify factors that constrain the application of the OPP.

This report is divided into five sections. The first section defines the context of this report by outlining background information, the purpose of the project, tasks to be performed, and the approach taken in this report. In the second section, the methodology used to perform the historical/organizational analysis is described. The results of this analysis are presented in the third section of this report. Specifically, this includes a basic orientation of the OPP, a description of the function analysis of the OPP, a comprehensive explanation of OPP application contexts and constraints, a brief discussion of the relationship between operational context and the OPP function analysis, and general observations made with respect to doctrinal OPP. Finally, conclusions and recommendations for future work are presented in the fourth and fifth sections of the report, respectively. Function flow diagrams of the OPP are presented in Annex A, and a tabular task analysis of the OPP, describing the initiating stimulus, goals, information requirements, key decisions outputs, and responsible staff (if this information is available) is provided in Annex B. A supplemental description of the 15 steps of Battle Procedure is provided in Annex C.

Resumé

Ce projet a pour but l'analyse historique/organisationnelle du processus de planification opérationnelle (PPO) de la Force terrestre, plus précisément au niveau de la brigade. En fait, ce projet permet de se documenter sur le PPO tel qu'il a été établi dans la doctrine et enseigné par la Force terrestre, décrit les contextes dans lesquels le PPO est appliqué et identifie les facteurs restreignant l'application du processus.

Ce rapport se compose de cinq sections. La première section définit le contexte par une mise en évidence des renseignements généraux, du but du projet, des tâches à effectuer et de l'approche prise pour ce rapport. La seconde partie porte sur la méthodologie utilisée lors de l'analyse historique/organisationnelle. On trouve à la troisième section les résultats de cette analyse, l'orientation de base du PPO, une description de l'analyse du PPO, une explication globale des contextes et des contraintes de mise en œuvre du processus, un bref exposé sur la relation entre le contexte opérationnel et l'analyse des fonctions du PPO ainsi que les observations générales concernant le PPO doctrinal. Enfin, les conclusions et les recommandations quant aux travaux à venir constituent respectivement les sections quatre et cinq de ce rapport. L'annexe A présente des diagrammes de fonctions du PPO. L'annexe B comprend une analyse tabulaire des tâches du PPO; elle décrit le stimulus déclencheur, les buts, les besoins en renseignements, les résultats clés de décisions et le personnel responsable (si l'information est disponible). Une description supplémentaire des 15 étapes de la procédure de combat constitue l'annexe C.

Executive Summary

The intention of Project Minerva is to re-examine Land Force Command and Control (C2) in light of the implementation of digitized C2 systems. This will be done within the context of the Athene Tactical System, which is to be delivered over the next year. The Land Force wants to develop new procedures that capitalize on the strengths of digitization.

Project Minerva will focus on the Operations Planning Process (OPP), which is the prescribed method of planning for a mission. Project Minerva will compare the OPP as it is currently laid out in doctrine to the application of the OPP as conducted by representative command teams in realistic scenarios. The first phase of the project (i.e. current work) is to document the doctrinal OPP and describe the 'typical' scenarios to which it would be applied (e.g. problems, contexts, constraints). The results of this project will form the basis for future work comparing doctrinal with applied OPP and examining procedural and technological means to better support operational planning. This first phase of the project will not include any analysis of the OPP as it is actually applied. The study of the OPP in practice will be the subject of a future project.

This report is divided into five sections. The first section defines the context of this report by outlining background information, the purpose of the project, tasks to be performed, and the approach taken in this report. In the second section, the methodology used to perform the historical/organizational analysis is described. The results of this analysis are presented in the third section of this report. Specifically, this includes a basic orientation of the OPP, a description of the function analysis of the OPP, a comprehensive explanation of OPP application contexts and constraints, a brief discussion of the relationship between operational context and the OPP function analysis, and general observations made with respect to doctrinal OPP. Finally, conclusions and recommendations for future work are presented in the fourth and fifth sections of the report, respectively. Function flow diagrams of the OPP are presented in Annex A, and a tabular task analysis of the OPP, describing the initiating stimulus, goals, information requirements, key decisions outputs, and responsible staff (if this information is available) is provided in Annex B. A supplemental description of the 15 steps of Battle Procedure is provided in Annex C.

Sommaire

Le projet Minerva réexamine le commandement et le contrôle (C2) de la Force terrestre à la lumière de la mise en application de systèmes C2 numérisés, et ce, dans le cadre de la mise en œuvre du Système tactique Athene, qui aura lieu au cours de l'année prochaine. La Force terrestre veut élaborer de nouvelles procédures qui mettront à profit les forces de la numérisation.

Le projet Minerva portera principalement sur le processus de planification opérationnel (PPO), la méthode de planification prescrite pour une mission. Le projet permettra de comparer le PPO tel qu'il est actuellement décrit dans la doctrine à son application tel qu'effectuée par des équipes de commandement types lors de scénarios réalistes. La première phase du projet (travaux en cours) porte sur la documentation du PPO doctrinal et sur la description de scénarios « typiques » auxquels le processus pourrait être appliqué (p. ex., problèmes, contextes, contraintes). Les résultats de ce projet serviront de fondations aux futurs travaux de comparaison entre le PPO doctrinal et le PPO appliqué et aux travaux d'examen des moyens procéduraux et technologiques pour mieux appuyer la planification opérationnelle. Cette phase n'inclura aucune analyse du PPO tel qu'il est présentement appliqué; cet aspect sera étudié dans un projet futur.

Ce rapport se compose de cinq sections. La première section définit le contexte par une mise en évidence des renseignements généraux, du but du projet, des tâches à effectuer et de l'approche prise pour ce rapport. La seconde partie porte sur la méthodologie utilisée lors de l'analyse historique/organisationnelle. On trouve à la troisième section les résultats de cette analyse, l'orientation de base du PPO, une description de l'analyse du PPO, une explication globale des contextes et des contraintes de mise en œuvre du processus, un bref exposé sur la relation entre le contexte opérationnel et l'analyse des fonctions du PPO ainsi que les observations générales concernant le PPO doctrinal. Enfin, les conclusions et les recommandations quant aux travaux à venir constituent respectivement les sections quatre et cinq de ce rapport. L'annexe A présente des diagrammes de fonctions du PPO. L'annexe B comprend une analyse tabulaire des tâches du PPO; elle décrit le stimulus déclencheur, les buts, les besoins en renseignements, les résultats clés de décisions et le personnel responsable (si l'information est disponible). Une description supplémentaire des 15 étapes de la procédure de combat constitue l'annexe C.

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1. Introduction

1.1 Background

The intention of Project Minerva is to re-examine Land Force Command and Control (C2) in light of the implementation of digitized C2 systems. This will be done within the context of the Athene Tactical System, which is to be delivered over the next year. The Land Force wants to develop new procedures that capitalize on the strengths of digitization.

Project Minerva will focus on the Operations Planning Process (OPP), which is the prescribed method of planning for a mission. Although the OPP was developed without any explicit relation to psychological theories of problem solving and decision making, it is consistent with what has been termed analytic decision making. This was found in work by Bryant, Webb, and McCann (2003). In particular, the OPP affirms two major premises of analytic decision making; 1) multiple solutions to the problem must be evaluated and the best selected, and 2) evaluation of solution alternatives must be performed through exhaustive factor-by-factor comparison.

Research in the cognitive sciences has suggested that a large portion of human decision making is conducted intuitively; i.e by less formal, non-analytic processes. This suggests that there may be a mismatch between the OPP as laid out in doctrine and taught at training and education institutions within the Canadian Forces (CF), and the planning process as practiced by command teams in the field. In particular, command teams at Brigade level and below may engage in a more intuitive process than the doctrinal OPP. An intuitive planning process may be preferable to an analytic process as intuitive reasoning has been demonstrated to require less information and consume less time than strictly analytic processes. Even where analytic processes have advantages, innate tendencies of humans to think intuitively may reduce the effectiveness of an analytic procedure like the OPP when put into practice. These arguments for intuitive procedures, however, may not apply when decision making is considered in the context of highly complex, dynamic problem scenarios involving many different planning participants.

To summarize, Project Minerva will compare the OPP as it is currently laid out in doctrine to the application of the OPP as conducted by representative command teams in realistic scenarios. The first phase of the project (i.e. current work) is to document the doctrinal OPP and describe the 'typical' scenarios to which it would be applied (e.g. problems, contexts, constraints). The results of this project will form the basis for future work comparing doctrinal with applied OPP and examining procedural and technological means to better support operational planning. This first phase of the project will not include any analysis of the OPP as it is actually applied. The study of the OPP in practice will be the subject of a future project.

The current project has been contracted to Humansystems Incorporated as a call-up under Standing Offer **W7711-01-7747**. The Scientific Authority (SA) for this work is Dr David Bryant.

1.2 Purpose

The objective of this project is to perform an historical/organizational analysis of the Land Force OPP, focusing on the brigade level. Specifically, this project will document the OPP as established in doctrine and taught by the Land Force, describe contexts in which the OPP is applied, and identify factors that constrain the application of the OPP.

1.3 Tasks

The following tasks were performed as part of this project:

1. Review relevant CF documentation in the OPP and operational planning.
2. Conduct a function flow analysis based on documentation from #1.
3. Validate the function flow analysis through SME interviews.
4. Establish contexts in which the OPP is applied.
5. Through SME interviews and a literature search, establish factors that constrain application of the OPP and generate a list of tactical problem types.
6. Identify how tactical problem types, constraints and decisions relate to the function flow analysis.

1.4 Approach Taken in this Report

The CF OPP as practiced by the Land Force is a comprehensive process involving a great number of personnel across a number of levels in the Land Force hierarchy. Each level in the Land Force hierarchy has its own processes and terminology that fit within the 'umbrella' of the next higher level in the hierarchy. This arrangement has the potential to lead to some confusion when, for instance, related processes are given different names at different levels of the Land Force hierarchy, but the relationship is not made explicit.

This report begins by defining a number of terms and relationships that were observed in the initial review of doctrinal material, and that have the potential to confuse the reader. The report then describes the typical scenarios to which the OPP might be applied. These first two sections provide the context within which the OPP exists. The report then describes the function flow diagrams of the OPP, which are themselves presented in Annex A.

Finally, a number of conclusions and recommendations for future work are made.

2. Method

This project began with a start-up meeting with the SA. At this meeting a common understanding of the objectives and focus of the project was confirmed. It was determined that, in order to document the OPP as it exists in doctrine as well as identify contexts in which the OPP is applied and constraints in its application, a review of both documentation of the OPP and the way in which the OPP is taught, would be required. In addition, it was decided that we should retain the services of a subject matter expert to aid in this process.

2.1 Subject Matter Experts (SMEs)

The SA arranged a visit to the Army Simulation Centre (ASC) at Kingston. This visit provided the opportunity to receive guidance and advice from the group that, among other major tasks, run training simulations for Staff Officers in the process of learning the OPP. This training is conducted strictly from a doctrinal perspective. This visit also permitted liaison with personnel who could arrange visits, observation and interviews. Finally, the personnel at ASC were able to recommend several references in terms of doctrine that should be reviewed for this project (see Section 2.2).

In addition, we retained the services of a recently retired Lieutenant-Colonel (LCol) as an SME. This SME was a LCol with the US Army and has been employed by Canadian Forces College (CFC) in Toronto since 1995, first as a Directing Staff and later as a Course Director for the Command and Staff Course, in which the OPP is taught to senior CF officers. As a result, this SME had immediate access to all doctrinal material, as well as familiarity with the way in which the OPP is taught at CFC. We were also fortunate in that we were able to use his network of contacts to arrange meetings and interviews with other SMEs. This SME was also a valuable source of advice and guidance throughout the project. Specifically, he reviewed all of the project deliverables along the way in order to ensure accuracy from the military standpoint.

2.2 Documentation

In order to conduct a function analysis of the Land Force OPP, we reviewed command and planning doctrine for both the Land Force and the CF. CF doctrine for operational planning (i.e. CFOPP) is "the keystone-planning manual in the Canadian Forces Doctrine Hierarchy" (DND, 2002). As such, it is intended to guide operational planning in the Canadian Forces. The doctrine states that the CFOPP is designed for use by:

1. Commanders and their staffs at the strategic and operational levels;
2. The Joint staff (J staff) at NDHQ;
3. Task forces established for routine and contingency operations, as well as all formations and agencies supporting such operations; and
4. Command and staff colleges and other teaching institutions within the framework for officer professional development.

It is recognized that the CFOPP represents the idealized process and that "units and formations will tailor it to their specific needs with their standing operating procedures" (DND, 2002). Land Force

doctrine, therefore, is meant to supplement CF doctrine or to be a stand-alone document for Land Force specific business. Therefore, according to doctrine, operational planning at the brigade level within the Land Force, depending upon operational context should involve the application of the CF OPP supplemented accordingly by the Land Force OPP.

References for this project were recommended by ASC as well as our SME (refer to Section 2.1). In summary, the documentation reviewed for this project includes:

Department of National Defence (2002). Joint Doctrine Manual: CF Operational Planning Process. B-GJ-005-500/FP-00; 2002-11-06.

Department of National Defence (1998). Land Force: Volume 1: Conduct of Land Operations – Operational Level Doctrine for the Canadian Army. B-GL-300-001/FP-000; 1998-07-01.

Department of National Defence (1996). Land Force: Volume 3: Command. B-GL-300-003/FP-000; 1996-07-21.

Department of National Defence (1997). Land Force: Volume 2: Land Force Tactical Doctrine. B-GL-300-002/FP-000; 1997-05-16.

Canadian Forces College. CSC no 29: Land Component Precis 4: Wargaming Supplement.

Canadian Forces College. (2001). CFC 106(3) CJ SOH: Combined and Joint Staff Officer's Handbook.

Department of the Army (1997). Field Manual 101-5: Staff Organization and Operations. FM 101-5; 1997-05-31.

2.3 Function Flow Diagrams

Using the above documentation, an initial function flow analysis was conducted. The function flow diagram is a frequently used function analysis technique (Beevis et al., 1994). Function analysis involves the identification of the key functions and their interrelationships that are required to achieve system objectives. Functions represent high level descriptions of logical units of behaviour of a system that must be performed, rather than describing the engineering or human sub-systems that actually implement the functions. Function analysis consists of a hierarchical analysis and description that starts at the upper levels and progresses to lower levels of decomposition. Each iteration of the function flow diagrams was revised by our SME to ensure accuracy. The final iteration was reviewed and validated by both our SME and the Armour Directing Staff from the Canadian Land Force Command and Staff College (CLFCSC) in Kingston.

2.4 Tabular Task Analysis

One limitation of function analysis is that it does not show such things as information requirements or critical decisions that need to be made in order to achieve each function. Thus, the analysis needs to be supplemented by a task or processing analysis to provide the level of details that will be required to model a system. This represents a more detailed decomposition of each function in terms of the specific decisions and information requirements that an operator must perform to achieve the function goals. To achieve this, a tabular task analysis of each function depicted in the function analysis was conducted in order to identify the trigger/stimulus, goal(s), information requirements, key decisions, outputs, and staff responsible for each function and sub-function in

the OPP. The elements identified in the tabular task analysis were based on previous work (Bryant, 2000) as well as certain components of the doctrine. For example, the CFOPP outlines the outputs, or products, for each step of the OPP. Given that this information is included in the doctrine yet not necessarily explicit in the function analysis, it was desirable to include it as one of the elements in the tabular task analysis.

2.5 Training

Having completed this first pass of the function analysis, meetings were arranged with personnel at the Directorate of Army Doctrine (DAD) and CLFCSC in Kingston. It was decided that it would be beneficial to observe how the OPP is taught to senior officers. The following lectures, and accompanying syndicate work, were observed:

- Introduction to OPP
- Intelligence preparation of the battlefield
- Course of Action (COA) development
- COA Comparison

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3. Results

3.1 Orientation of the OPP

At the initial meeting with our SME, it became apparent from meetings that it would be necessary to 'orient' the report by placing the OPP in the context of the Land Force hierarchy and procedures. This information was also passed to the SME for comment.

This section intends to define the position of the OPP in relation to the different levels of the Land Force hierarchy and in terms of other, related, procedures/elements of doctrine adopted by different levels in the Land Force. Although second nature to Land Force personnel, the relationship between different aspects of Land Force doctrine can be daunting to others, and it is to these laypeople that this section is aimed.

This section outlines the structure of the Land Force in Canada and then outlines the difference between Strategic, Operational and Tactical levels of planning. Staff assignments in a Commander's Staff are then described, followed by the relationship between different elements of doctrine.

3.1.1 Land Force (Infantry) Structure and Levels of Planning

There are potentially eight levels in the structure of an Army (this structure is independent of ranks and takes an infantry perspective). They are:

Corps	The Canadian Land Force is not large enough at this time to have a Corps
Division (Div)	the Canadian Land Force is not large enough at this time to have a Division
Brigade (Bde)	Is comprised of three infantry battalions and one armoured Regiment, one Field Regiment, and one Engineer Regiment with organic combat support and combat service support units
Battalion (Bn)	Is comprised of one Head Quarters (HQ) (support elements come from signals platoon in combat support Company), three rifle Companies, one combat support Company (reconnaissance [recce] platoon, signals platoon, armour platoon) and one admin Company (transport platoon, maintenance platoon, medical platoon and supply platoon); there are nine regular force infantry Bn and three armoured Regiments (Reg) in Canada
Company (Coy)	Is comprised of three Platoons and one specialised Platoon
Platoon (Pl)	Is comprised of three Sections
Section (Sect)	Is comprised of eight or ten men (dismounted and mounted infantry respectively); may also be referred to as a Detachment (Det)

The different levels in the Land Force engage in different types of planning: Strategic, Operational and Tactical.

The Strategic-level of planning involves the employment of a nation's resources (political, economic, moral, scientific, technological, informational and military) to achieve the objectives determined to be in the national interest. Military strategy is a component of national strategy. It

provides direction for the use of military power to achieve national objectives by the application of force or the threat of force. Strategic-level planning is always represented by the Chief of Defence Staff (CDS). The CDS is supported by the Deputy CDS (DCDS) and the Joint (J) Staff at National Defence Head Quarters (NDHQ).

The Operational-level of planning focuses on a commander prescribing what military actions are necessary to achieve the strategic aim. He or she does this by stating the military intent of the operation, by planning sequential military actions to achieve this intent, and by initiating and sustaining such actions. At this level, commanders design, prepare and conduct joint campaigns and major operations, each of which comprise a series of battles, engagements and other actions. The operational level of planning may be used at the Bde level but for most operations begins at one of four area headquarters (as the force generators) and is most commonly applied at Div, Corps, and Component (e.g. Engineer, Artillery) levels. Commanders at this level are assisted by General Staff (G Staff).

The Tactical-level of planning focuses on the battles, engagements and other actions required to accomplish military objectives established by the operational level commander. Battles and engagements generally shape the course of events at the operational level, but are only a part of the whole in that one successful engagement does not necessarily lead to strategic victory. Tactical-level planning is employed at Bde level and below, and begins to show greater emphasis on 'Battle Procedure' and the 'Estimate'.

The relationship between the various levels of planning and structure of the Land Force (including NDHQ) is shown in Figure 1.

Figure 1: Relationship between Land Force structure and levels of planning

From a purely doctrinal sense all planning through Division level is considered tactical. While a Brigade may employ the OPP in a recognizable form, it would rarely do so at the "operational" level (current exceptions to this include Operation Athena in Afghanistan). A number of different opinions about this doctrinal point exist, most driven by the attempt to apply operational-level doctrinal terminology to a small standing force. This point should be borne in mind when considering the OPP.

3.1.2. The Estimate, OPP and Battle Procedure

The Estimate, OPP and Battle Procedure are all planning procedures employed within the Land Force, although at different levels. The processes are somewhat overlapping, especially at the Bde level. This section includes a description of and makes a distinction between these three planning processes.

The Estimate refers to the process by which an individual (e.g. commander) performs a mission analysis, evaluates all of the factors relevant to the mission, considers potential courses of action and makes a decision that meets the requirements of the mission. An Estimate that includes all of these steps and is iterative, such that it continues as the situation changes, is referred to as a Formal Estimate or Estimate of the Situation. The Combat Estimate, on the other hand, is an abbreviated form of the Estimate of the Situation made when time is short or information is incomplete, and is usually completed in mental or note form by an individual rather than a group.

The individual Estimate of the situation becomes less applicable at higher levels of command. Component, Corps, Div and Bde commanders would have difficulty in completing an estimate on their own, given the amount of information and process tools available. A collective effort is likely to lead to better and more timely output. Hence, the OPP is simply a collective Estimate of the situation that synchronises the effort of the staff.

The OPP comprises the steps of the Estimate but includes three additional steps: initiation (or receipt of tasks), plan development and plan review. Also, as the Estimate is normally performed by an individual, the OPP is performed collectively by a commander and his planning staff and also at higher levels of command (i.e. Corps, Div and sometimes Bde). The OPP exists in both CF and Land Force doctrine. The Canadian Forces Operational Planning Process (CF OPP) is a five step process comprising Initiation, Orientation, Course Of Action (COA) Development, Plan Development and Plan Review. The CF OPP is common to the three branches of the Canadian Forces (CF) although, according to staff at CLFCSC in Kingston, the OPP as practised by the Land Force (herein referred to as Land Force OPP) may be considered more prescriptive than that of the Navy or the Air Force. That is, it is understood that the Land Force requires more adherence to their OPP than the other forces. The Land Force OPP also consists of six steps rather than five (a 'Decision' step has been subsumed within 'COA Development' in the CF OPP). Regardless of any differences, the Land Force OPP is consistent with the CF OPP, which itself is consistent with North Atlantic Treaty Organisation (NATO) Guidelines for Operational Planning (GOP). Further references to 'OPP' in this document will refer to the (six step) Land Force OPP, unless otherwise indicated.

The Estimate feeds into the G Staff involved in planning at the Bde level. Each member of G Staff has responsibility for estimates pertaining to different factors, and these are brought together by the Commander. Because the Commander receives direction from a superior Commander, but uses the Estimate to progress the OPP, it cannot be concluded that Bde planning is either OPP-driven or Estimate-driven.

Battle Procedure is the process, typically used at the Bde level and lower, by which a commander receives his orders, makes his reconnaissance and plan, issues his orders, prepares and deploys his troops and executes his mission. Battle Procedure has traditionally been the source of decision-making in the Land Force at the lower tactical levels, but now applies to Commanders at all levels. Battle Procedure is similar to the OPP in that there is a cycle of consideration and planning, although the end goal of the Battle Procedure is an action (e.g. execution) rather than a plan of action. This is reflected in the four stages of Battle Procedure: Direction, Consideration, Decision,

and Execution. At the lower levels of command, however, Battle Procedure has been refined over time into a drill consisting of 15 steps (shown in Appendix C), which expand upon the four stages listed above.

The relationship between Battle Procedure and the OPP is illustrated in Figure 2 (note: this figure compares the processes; it does not show how they are integrated). According to Land Force doctrine, the OPP, similar to the estimate, occurs within the first three steps of battle procedure – direction, consideration and decision.

The relationship between levels of command, levels or planning, and planning processes is illustrated in Figure 3. In summary, Battle Procedure is used at Bde level and below whereas the OPP is employed at the Bde level and above. Hence, there is some overlap at the Bde level.

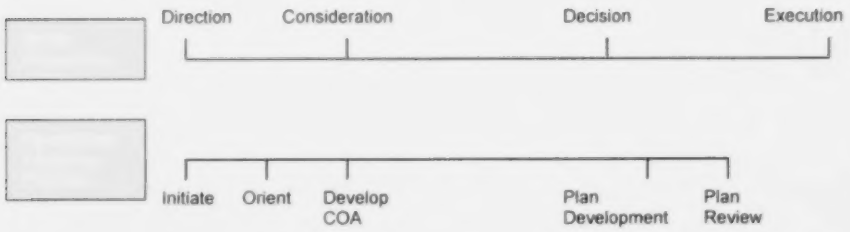

Figure 2: Relationship between Battle Procedure and the OPP

Figure 3: Relationship between levels of command, levels of planning and planning processes

3.1.3 Staff Assignments

The function flow analyses described later in this report attempt to define responsibilities for different tasks, information provision, etc. To assist the reader, descriptions of the different roles performed by members of a General Staff are provided:

Commander – a member of the CF with the authority to direct, co-ordinate, and control military forces.

Staff – personnel who assist in planning and preparing the orders Commanders wish to issue, and personnel who assist Commanders in monitoring and controlling the actions taken by subordinate units in executing those orders. The prefix G is used when referring to land staff, A refers to air staff, N refers to maritime staff, and J designates joint staff (those supporting more than one environment). General Staff assist the Commander in meeting the operational responsibilities of command.

The General Staff consists of:

G1 – responsible for personnel;

G2 – responsible for intelligence;

G3 – responsible for operations;

G4 – responsible for logistics;

G5 – responsible for plans;

G6 – responsible for communications;

G7 – responsible for training;

G8 – responsible for financial management; and

G9 – responsible for civil/military relations.

3.2. Function Flow Diagrams

As mentioned earlier in the report, we relied on four sources of information to complete this task:

- CF OPP (Canadian Forces Operation Planning Process)
- Land Force OPP as described in Land Force Command doctrine
- Training curriculum at CLFCSC
- Additional curriculum material from Canadian Forces College

According to doctrine, the Canadian Forces OPP (CF OPP) is "intended to guide operational planning in the Canadian Forces" (National Defence, 2002). It is an idealized process and therefore, units and formations may need to tailor its use to their specific needs. The manual states that the "CF OPP is designed for use by commanders and their staffs at the strategic and operational levels, task forces established for routine and contingency operations, as well as all formations and agencies supporting such operations; and command and staff colleges and other teaching institutions within the framework for officer professional development" (National Defence, 2002).

The Land Force Command publication is "intended to give guidance and provide commonality of procedure at all levels [i.e. strategic, operational and tactical]", although "its focus is on command in war at the operational and tactical levels" (National Defence, 1996). The OPP in this publication

is intended for a commander and his staff who may "because of time imperatives [be required] to compress elements of the process" (National Defence, 1996).

The doctrinal sources listed in Section 3.1.1 were used to create the function flow diagrams that appear in Annex A. As outlined in the Methods section, the diagrams depict functions in increasing levels of detail. Each function is depicted in the diagram in its own box. The top level (Level 1) depicts the six (6) main functions involved in the OPP. Main functions (i.e. Initiation, Orientation, COA Development) are decomposed into sub-functions, as indicated by the bolded outline around the boxes. Certain sub-functions (e.g. Level 2 functions) are further decomposed, again as indicated by the bolded outline around the boxes. For example, the top level function "COA Development" has four levels of decomposition.

In general, the doctrinal materials lent themselves well to the function analysis. That is, the functions and sub-functions were readily apparent from the doctrine. The CFOPP, in particular, dedicated one section within the document to each step (i.e. main function) of the OPP (e.g. initiation, orientation, etc.). Within each section, key elements (higher level) and activities (lower level) involved in that step of the OPP were outlined in some detail. In most cases, these key elements were associated with second-level functions of the OPP while the activities and details of the activities were associated with third and fourth-level functions, respectively. In comparison, the Land Force OPP, as outlined in Land Force Command (1996), is much more condensed and provides a one or two paragraph description of each step of the OPP. The description includes such information as main activities, roles and responsibilities of the commander and/or planning staff, and the purpose of each step. As a result, a function analysis based on the Land Force OPP doctrine alone would require more extrapolation than one based on the CFOPP.

One of the limitations of performing a function analysis on the OPP is the potential interpretation that the OPP is fixed and is a linear process. In fact, the Land Forces Command (1996) doctrine advises against this type of interpretation by stating that "it is a mistake to view the process as a sequence of discrete, distinct activities. In reality, a commander and his staff may be required to work simultaneously on current and subsequent missions, to develop contingencies or, because of time imperatives, to compress elements of the process." In the function analysis of the OPP, AND, REP and IF THEN structures were used to depict functions that are performed simultaneously, repeatedly or only if certain conditions are met. However, even with these configurations, it is difficult to illustrate the intended flexibility of the OPP.

3.2.1. Tabular Task Analysis

As mentioned in the Methods section, a tabular task analysis was conducted in order to supplement the function analysis in that it provides a different level of detail in terms of the specific decisions and information requirements that an operator must perform to achieve the function goals.

The tabular task analysis, shown in Annex B, identifies the trigger/stimulus, goal(s), information requirements, key decisions, outputs, and staff responsible for each function and sub-function in the OPP. Specifically, the left hand column lists the function and sub-functions of the OPP as illustrated in the function flow diagrams. In interpreting the tabular task analysis, any data (i.e. trigger/stimulus, goals, lead staff, etc.) listed for higher level functions (e.g. 3.4 Develop initial own COAs) holds for all sub-functions (e.g. 3.4.1 Develop ways to accomplish tasks within associated mission) unless otherwise noted. It should also be noted that the data in the tabular task analysis was taken from a variety of sources of doctrine such as CF OPP, Land Forces OPP, instruction at CLFCSC and instruction at CFC. Hence, certain points may be debateable depending upon

perspective and/or context. For example, depending upon HQ staff structure, G3 Plans or G5 may be the primary planning agent. Given that the focus of this work is brigade level planning, we show the G3 in the role of primary planning agent. Another point that may be debateable is the fact that the Chief of Staff (COS) is listed as staff lead for several functions in the tabular task analysis. In some cases, other staff, for example the G3, may actually carry out some of these functions, but the COS is ultimately responsible. In these cases, we maintain that the COS is the lead staff.

Upon examination of the tabular task analysis, it is evident that there are several blank cells. In some cases, the goals, information requirements, etc. for sub-functions are subsumed under the higher level function. For example, the goal identified for function 2.11 Review Situation applies to sub-functions 2.1.1.1 through 2.1.1.8. However, in the majority of cases, blank cells indicate that the doctrine does not provide specific guidance with respect to those elements. In general, both CF and Land Force doctrine is detailed with respect to outlining goals and outputs. Information on lead and support staff, while sporadic, was also detailed in both sources of doctrine. However, the doctrine is generally not prescriptive in terms of identifying triggers/stimulus, information requirements and key decisions. In fact, in many cases, triggers, information requirements and key decisions were inferred from one or more of the following:

- Functions and activities identified by the function analysis;
- Outputs from previous functions;
- Goals identified in the doctrine.

3.3. OPP Application Contexts and Constraints

3.3.1. Application Contexts

It is very difficult to describe application contexts for the OPP as the full range of factors that can be involved are limitless. This section attempts to describe the different contexts or situations for which a Commander might employ the OPP at a high level of description.

The CF OPP manual lists two categories of CF operations:

- Routine Operations; and
- Contingency Operations

Routine operations are those for which a given Capability Component (CC) has been specifically tasked, organised and equipped. Routine operations use existing C2 relationships and there may be no requirement to use joint terminology. Routine operations normally reflect tasks from the Canadian Joint Task List (CJTL) that have been assigned to the CC in the Defence Plan. Doctrine for routine operations is normally environmental in nature. There are eight main tasks in the CJTL, each with associated subtasks corresponding to strategic, operational and tactical levels:

- Command;
- Information and Intelligence;
- Conduct of Operations;
- Mobility;
- Force Protection;
- Sustain;

- Force Generation; and
- Corporate Strategy and Policy

Contingency operations can be conducted either domestically or internationally. If an operation does not clearly fall into the routine category, then it is contingency and a grouping specifically tailored to the operation is generated. Any grouping created for a contingency operation is called a Task Force (TF). If more than one service is involved in the operation it is called a Joint Task Force (JTF).

Operations can take place domestically or internationally. Routine domestic operations can be conducted with the resources integral to the formation. In routine operations TFs are formed and Task Force Commanders (TFCs) are normally appointed on the initiative of the operational commander. Domestic contingency operations is therefore taken to mean a routine operation that is beyond the capability of a formation-based TF, or an operation that does not fall clearly into the eight categories of routine operation. One further type of operation – a transition – is identified to cater to the situation where a routine operation escalates and threatens to overwhelm the capabilities of the initiating Commander.

International operations are similar in nature to domestic operations, except that international contingency operations are likely to involve allied or coalition forces.

The following are examples of specific planning scenarios for which commanders may employ the OPP, categorized according to whether they are international or domestic, whether they are routine or contingency and, if they are routine, to what CJTL task they correspond.

Examples would include:

- Hurricane relief support (Domestic Contingency as a TF/JTF);
- Red River Floods (Domestic Contingency as a TF/JTF);
- Ice Storm Relief (Domestic Contingency as a TF/JTF);
- Firefighting (Domestic Contingency as a TF/JTF);
- Operation Apollo (International Contingency as a JTF);
- Toronto Snow Relief (Domestic Contingency as a TF); and
- Manitoba Floods (Domestic Contingency as a TF/JTF).

Planning is considered as either deliberate or crisis action while operations are domestic or international. Virtually all international operations are contingency in nature. One could say that day-to-day operations within Canada are "routine". A "contingency" operation, which may be based on an NDHQ CONPLAN, is when a single operation exceeds the capability of a single formation-based HQ to plan, coordinate, and execute. For example, preparations for potential disruption related to year 2000 (commonly known as Y2K) was a "national" contingency operation conducted via a deliberate planning process.

3.3.2. Canadian Forces Roles, Missions and Scenarios

An alternative approach to considering planning contexts is provided by the Defence White Paper (1994 http://www.forces.gc.ca/admpol/eng/doc/white_e.htm). CF roles are divided into three broad categories and a number of subcategories. CF Missions are divided into three categories, with similarities to some of the descriptions given in the preceding section (Section 3.3.1). Eleven

CF planning scenarios are listed. Although roles, missions and planning scenarios are largely for strategic force planning, they will encompass all operational and tactical planning operations.

3.3.2.1 CF Roles

There are three CF role categories:

1. The protection of Canada;
2. Canada-United States defence cooperation; and
3. Contribution to international security

The protection of Canada focuses on national defence and has 6 sub-categories:

1. **Aid to the civil power** – provinces can call upon the CF to maintain and/or restore law and order when it is beyond the power of the civil authorities to do so. The CF role is not to replace the civil authorities, but to help them to re-establish law and order.
2. **Providing peacetime surveillance and control** – even in the absence of a direct military threat, the CF must ensure effective control over Canadian territory, airspace and maritime approaches.
3. **Securing Canadian border against illegal activities** – the CF must maintain the capability to satisfy cooperative agreements in support of other government departments such as the Solicitor General/RCMP.
4. **Fisheries protection** – this activity mainly involves the Air Force and Navy in protecting Canada's fisheries from illegal and damaging exploitation.
5. **Disaster relief** – the CF plays a key role in responding to natural and man-made disasters such as earthquakes, floods and fires.
6. **Search and rescue** – the CF is responsible for the air search and rescue capabilities as well as providing significant resources (e.g. manpower, C2 facilities) to assist local authorities in land search and rescue operations.

Canada-United States defence cooperation focuses on the defence of North America. This cooperation is defined by various bilateral arrangements and agreements and involves the use of land, sea and air elements.

Canada's contribution to international security entails all other international cooperative actions. Like the protection of Canada, this is divided into 6 sub-categories:

1. **Preventative deployment of forces** – to an area of imminent dispute prior to the outbreak of conflict. The objective is to defuse tension, enhance confidence, and prevent minor incidents from escalating inadvertently to full-scale hostilities.
2. **Peacekeeping and observer missions** – impartial CF forces are positioned between parties to a ceasefire, and monitor agreements during the course of negotiations intended to lead to a political solution.
3. **Enforcing the will of the international community and defending allies** – including the enforcement of economic sanctions or arms embargoes, using armed forces to secure conditions for the delivery of aid, securing 'no-fly zones', and protecting civilian populations and refugees in safe areas.
4. **Post-conflict peacebuilding** – rehabilitation of areas that have suffered armed conflict through the considered use of CF training, skills and equipment.

5. **Measures to enhance stability and build confidence** – such as arms control, intended to prevent or limit conflict and foster stable relations between states. The CF assists in the inspection and verification of compliance with these arrangements.
6. **Participate in multilateral operations** – in addition to those described above, the CF must meet commitments such as NATO collective defence, peacetime commitments to NATO and international humanitarian assistance and disaster relief.

3.3.2.2 CF Missions

Three types of CF missions (or operations) are described:

1. **Domestic operations** – include all peacetime operations conducted within Canadian territory, airspace, and maritime approaches. Some recent domestic operations in which the CF has been involved are listed in section 3.3.1.
2. **Peace support operations** – include operations conducted outside Canada under a United Nations (UN), alliance or coalition banner. Typically, the mission mandate is provided by a UN Security Council resolution. Peace support operations may be of low intensity (peace*building*), medium intensity (peace*keeping*), or high intensity (peace *enforcement*). The extent to which the use of force is authorised is the key yardstick of peach support mission intensity.
3. **War-fighting operations** – the offensive and defensive combat operations conducted inside or outside Canada, usually in concert with allies, against a modern well-equipped enemy.

3.3.2.3 CF Planning Scenarios

The CF planning scenarios provide realistic situations that could be encountered for each type of generic mission the CF could be called upon to perform. Specifically, the scenarios outline a planned series of real or imaginary events including details pertaining to the various scenes and situations as well as the cast of primary players. The scenarios correspond with current defence policy. There are twelve planning scenarios, each of which is described briefly below.

1. **Search and rescue in Canada** – an airliner has been come down in a remote part of northern Canada and there are survivors.
2. **Disaster relief in Canada** – an earthquake has occurred on the West Coast resulting in major devastation. The magnitude of the damage is not fully understood and local and provincial authorities are overwhelmed. The federal government has declared a national emergency.
3. **International humanitarian assistance** – a situation in an African country has developed. The magnitude of the situation has overwhelmed local government, infrastructure and support facilities. The UN has passed a resolution calling for a multinational force to be formed to deliver humanitarian supplies and support services.
4. **Surveillance/control of Canadian territory** – drug smuggling and landing of illegal immigrants on Canadian coasts have increased. CF units have been directed to assist the RCMP to identify, track and intercept 'platforms of interest' before or after reaching Canadian territory.
5. **Evacuation of Canadians overseas** – a conflict between a country's government and an insurgent group threatens the stability of the country and its general peace and

order. Since it is possible that the insurgents could take hostages to further their cause, the Canadian government has decided to evacuate all Canadian citizens.

6. **Peace support operations – Peace Building** – a conflict has occurred between two bordering states, which has evolved into a stalemate. The UN has brokered a ceasefire and non-governmental organisations have entered the area. A UN force has been deployed to conduct peace support operations along the border area to assist in the establishment of an environment where peace building can take place. Ongoing examples of this would be the actions in Bosnia, Liberia, Afghanistan and Iraq.
7. **Peace support operations – Peace Keeping** – a past conflict between two factions has evolved into a prolonged period of stasis. The role of the UN or other international force has evolved from peace building to peace keeping. Ongoing examples of this include Cyprus, the Sinai and the Lebanon.
8. **Peace support operations – Peace Enforcement** – two bordering states (non-NATO) have entered into armed conflict, in which one state is likely to be overwhelmingly victorious. The international community does not believe this to be acceptable. The UN Security Council pass a resolution to send a multinational force be deployed to restore the status quo. Recent examples of this include Rwanda and Somalia.
9. **Aid of the civil power** – due to some shortage of resource or other dissatisfaction of the public, there is civil unrest. Civilian authorities can no longer cope with the situation and CF assistance has been requested.
10. **National sovereignty/interests enforcement** – a dispute over the rights to resources has led to another country moving units into that area. A Canadian governmental unit in the area was forced by small arms fire to leave the area. The country then moved military units into the area and rejected Canadian calls to resolve the dispute by international arbitration.
11. **Defence of North America** – a military superpower has become increasingly hostile to the west and is affiliated to a country in the Americas. This affiliate country is disproportionately influenced by criminal elements and it is complicit in the production, sale and distribution of drugs to North America. This has led to an increase in crime and there is concern that domestic criminal organisations may support terrorist activities at home. All diplomatic means of solving the problem have been exhausted. The US and Canada have established a joint force to eliminate the threat posed by the hostile country and establish democratic elections. The superpower has threatened retaliation if the US and Canada interfere with its ally.
12. **Collective defence** – two bordering states (one NATO) have a long-standing border dispute and the recent discovery of natural resources in the area has escalated the situation. The neighbouring state (non-NATO) has made a number of incursions and drawn the sympathies of regional dictatorial regimes due to the imposition of NATO protests and sanctions. Intelligence has indicated that a major military exercise is due to be held in the dispute area by the non-NATO nation. The NATO nation under pressure has called upon its NATO allies to provide a credible deterrent force.

These scenarios can be mapped within the spectrum of conflict ranging from peacetime to war-fighting operations as depicted in Figure 4.

3.3.3. Constraints

Of equal difficulty is the definition and description of constraints on the application of the OPP. Any factor, under the wrong circumstances, can represent a constraint as easily as it might represent an opportunity. Typically, however, commanders consider the following factors as significant constraints to the planning process (note that these are constraints to the planning process itself, not necessarily the mission, as any factor must be considered as both an opportunity and a constraint in the context of achieving a mission):

- Time (with less time, a less comprehensive planning cycle is followed);
- Available Options (logistical considerations may constrain the options available to planning staff. For example, if there is no shipping then consideration of an amphibious operation is not a viable option);
- Logistics (it may not be possible to deliver the information or resources to the planning staff);
- Organisation (a complete staff may not be available);
- Resources (staff may not have the tools required to do a comprehensive planning activity);
- Information Availability (information required to fully form and test plans may not be available or accessible; thus related to communications); and
- Training (many staff officers and even commanders are not trained in the application of the OPP).

The factors that are considered during a comprehensive application of the OPP are detailed in the function flow diagrams and tabular task analysis.

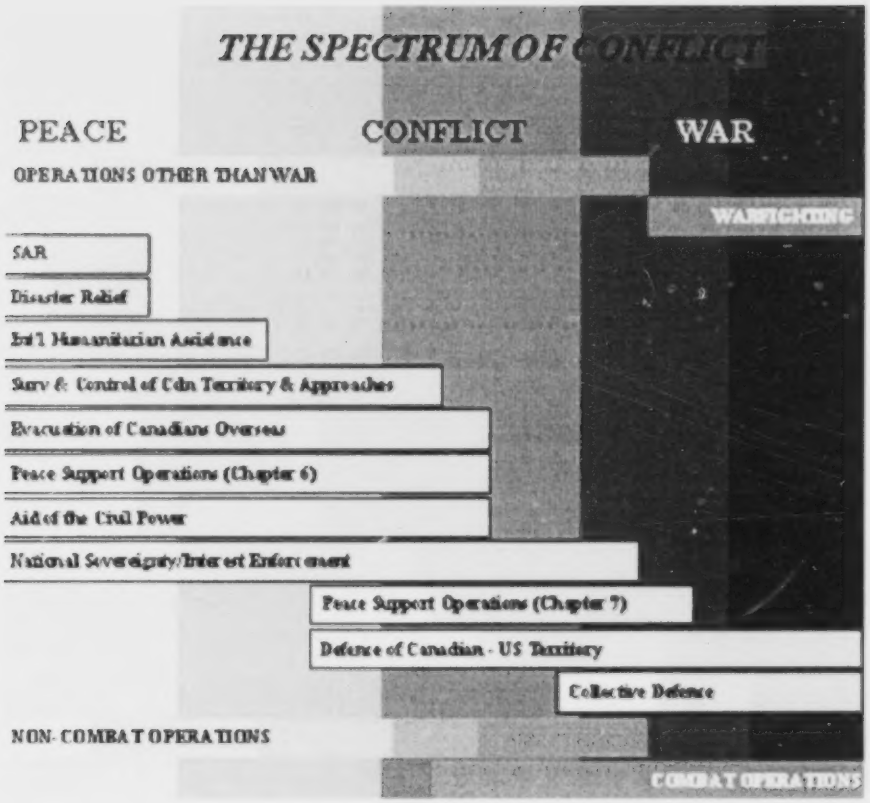

Figure 4: Spectrum of conflict (from http://www.vcds.forces.gc.ca/dqsp/pubs/rep-pub/dda/scen_e.asp)

3.4. Relationship of Operational Context to Function Flows

As described in Land Force Command doctrine, although the OPP consists of six steps "... it is a mistake to view the process as a sequence of discrete, distinct activities" (National Defence, 1996). The doctrine states that in planning environments in which a commander and his staff are required to work simultaneously on current and subsequent missions, develop contingencies, or deal with time imperatives, the elements of the OPP may be compressed. That is, an abbreviated version of the OPP as presented in the function flow diagrams within this report, may be employed in certain operational contexts.

In addition, anecdotal statements from Directing Staff at CLFCSC point to abridged application of different steps in the process if appropriate. It was stated by Directing Staff that a shortened planning process should only be engaged if the Commander has significant experience, a point also made in the Land Force doctrine.

In summary, there is evidence in written doctrine as well as anecdotally that the OPP can be abbreviated in certain operational contexts. However, there is no guidance provided in terms of how best to abbreviate this process. Further, given the potentially boundless nature of the operations conducted by the Land Force, and the equally boundless nature of the constraints on the planning process, it is not possible to identify (from doctrine) other impacts of the operational context on the OPP.

3.5. General Observations

In order to conduct the function analysis of Land Force OPP, we reviewed command and planning doctrine for both the Land Force and the CF. As described in the Results section, planning at the brigade level in the Land Force, depending on context, may involve planning as directed by the CF (i.e. CF OPP) and/or by Land Forces (i.e. Land Force OPP). Although the functions involved in both processes are essentially identical, there are subtle differences that are worth noting.

First, CF doctrine refers to the planning process at the operational level as the Operational Planning Process, whereas Land Forces doctrine refers to it as the Operations Planning Process. Although this difference may be purely semantics, it is worth noting.

Second, CF doctrine depicts the OPP as a five step process whereas Land Forces doctrine outlines a six step OPP. The CF OPP defines the Land Force OPP main function "4.0 Decision" as a sub-function of the main function "3.0 COA Development". That is, the CF OPP has combined the third and fourth steps of the Land Forces OPP.

A third observation relates to terminology used in the CF OPP compared to the Land Force OPP. The initial function in the CF OPP is entitled "Initiation" whereas that of the Land Force OPP is entitled "Receipt of Task". Although the titles differ, this first step of the OPP comprises the same sub-functions regardless of whether it originates from the CF or Land Forces.

Another difference noted relates to the level of detail in CF compared to Land Force OPP doctrine. This difference holds true not only for doctrinal material (i.e. CF OPP and Land Force OPP), but also for the curriculum used in training officers in the OPP. In general, Land Force doctrine and instruction is more abbreviated. That is, there are less sub-functions identified explicitly for each of the 6 mains functions of the OPP. An instructor of the Land Force OPP stated that a lot of the detail provided in the CF OPP is implied in the Land Force OPP as this information is contained within an officer's Standard Operating Procedures (SOPs).

An additional observation related to level of detail can be made of the both the CF and Land Force doctrine. As identified in the tabular task analysis, both CF and Land Force doctrine, in general, are detailed with respect to outlining goals and outputs. Information on lead and support staff, while sporadic, was detailed in both CF and Land Force doctrine. However, the doctrine is generally not prescriptive in terms of identifying triggers/stimulus, information requirements and key decisions. In some cases, this information could be inferred from sub-functions identified by the function analysis or outputs from preceding functions, although it was not explicitly detailed in the doctrine.

A final significant observation relates to the use of Wargaming. According to CF doctrine wargaming *always* occurs in the COA comparison step and, ideally, all enemy and own COAs are wargamed. Further, there is typically not a wargame after a COA is selected and the plan development stage has been initiated. According to Land Force doctrine, on the other hand, wargaming is one of 3 possible steps in COA comparison and is only conducted at this point if

there is sufficient time available. However, plan wargaming, which takes place during the plan development stage, *always* occurs. That is, once a COA has been selected to be developed into a plan, wargaming is used to identify advantages, disadvantages and other important considerations specific to the potential plan.

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4. Conclusions

There are certain incongruities in the Operations Planning Process as outlined by the CF compared to Land Forces. Given that officers in the Land Force may use either source of doctrine, these differences are notable. In summary, differences lie in the number of main functions included in the OPP, the terminology for the first main function, the level of detail in CF compared to Land Force OPP doctrine, and the use of wargaming.

While it is not likely that the first two points would affect the application of the OPP in the Land Force, it is possible that discrepancies in the level of detail provided in the doctrine as well as differences in the use of wargaming may influence OPP application.

Another observation related to the level of detail applied to both the CF and Land Forces doctrine. It was observed that both CF and Land Forces doctrine, in general, are detailed with respect to outlining goals and outputs. Information on lead and support staff, while sporadic, was detailed in both CF and Land Force doctrine. However, the doctrine is generally not prescriptive in terms of identifying triggers/stimulus, information requirements and key decisions. Hence, these may be areas in which both CF and Land Force doctrine could be more specific in the guidance it provides to planners.

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5. Future Work

Given that differences in OPP doctrine as prescribed by the CF compared to Land Forces were identified, it is recommended that future work investigate whether these doctrinal differences influence application of the OPP in an operational context.

In addition, the Directorate of Army Doctrine is currently in the process of updating the Land Force Command doctrine. One possible outcome of this will be an amendment of the OPP to a five step process. Given that this project is based on the 1996 Land Force Command doctrine, an update of the function analysis may be appropriate once the updated doctrine has been released.

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Annex A:
Function Flow Diagrams

The following pages contain function flow diagrams to show the major functions that are performed in the Operations Planning Process. Each function in a function flow diagram is depicted in its own box. The functions are placed in the sequence in which they are performed in the process with lines indicating the links. The layout convention used is that flows should be read from left to right. Many levels and functions are not mutually exclusive. Similarly, the order in which some functions may be fulfilled will depend on circumstances and should be interpreted loosely.

The following symbology is used in the function flow diagrams:

- Functions that are performed in parallel, rather than sequentially, are displayed as a vertical stack rather than side by side.
- Each sequence of functions begins and ends with a higher function to indicate what functions precede and follow the sequence. These beginning and ending functions are both shaded to distinguish them from the lower level functions themselves.
- "AND" circles are also used to indicate points at which functions are or may be performed simultaneously.
- A "REP" circle depicts functions that are likely to be repeated. A repetition indicates points at which members of the planning team may go back to and repeat earlier sequences of functions.
- Function boxes with a darker (**bold**) border represent functions that have been further decomposed into sub-functions.
- Functions with an "IF" statement are performed only if a certain condition is met. If the specified condition is not met, the "ELSE" function is performed.

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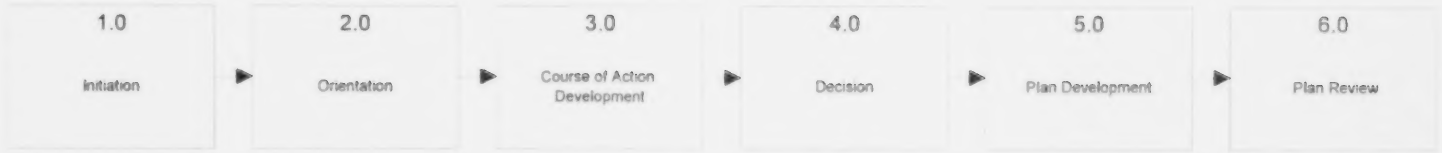
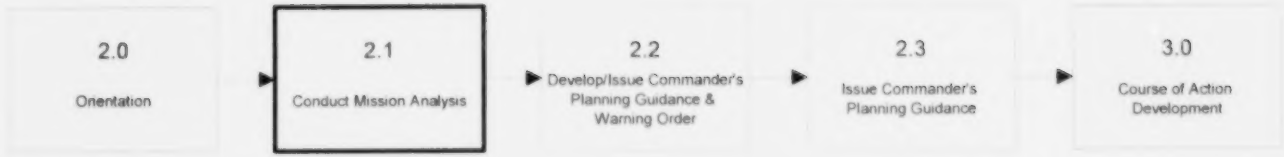

1.0
Initiation
2.0
Orientation
3.0
Course of Action Development
4.0
Decision
5.0
Plan Development
6.0
Plan Review

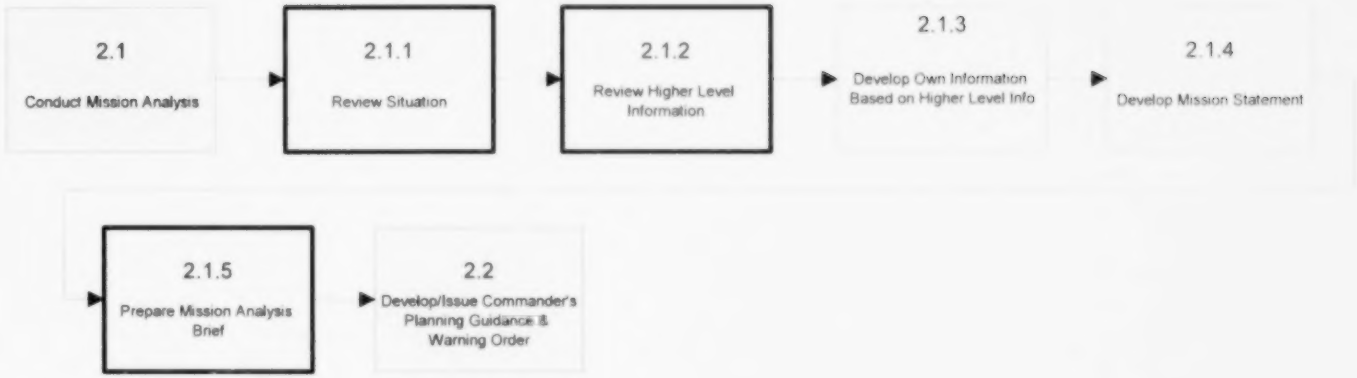
1.0
Initiation
1.1
Receive Initiating Directive
1.2
Activate Planning Staff
1.3
Gather Planning Tools
1.4
Issue Guidelines to Staff
1.5
Comd Makes Initial Assessment
1.6
Comd Issues Initial Comd's Guidance
ELSE
2.0
Orientation
IF
1) crisis action planning
2) subordinate/supporting formations known
1.7
Issue Warning Orders to Subordinate/Supporting Formations

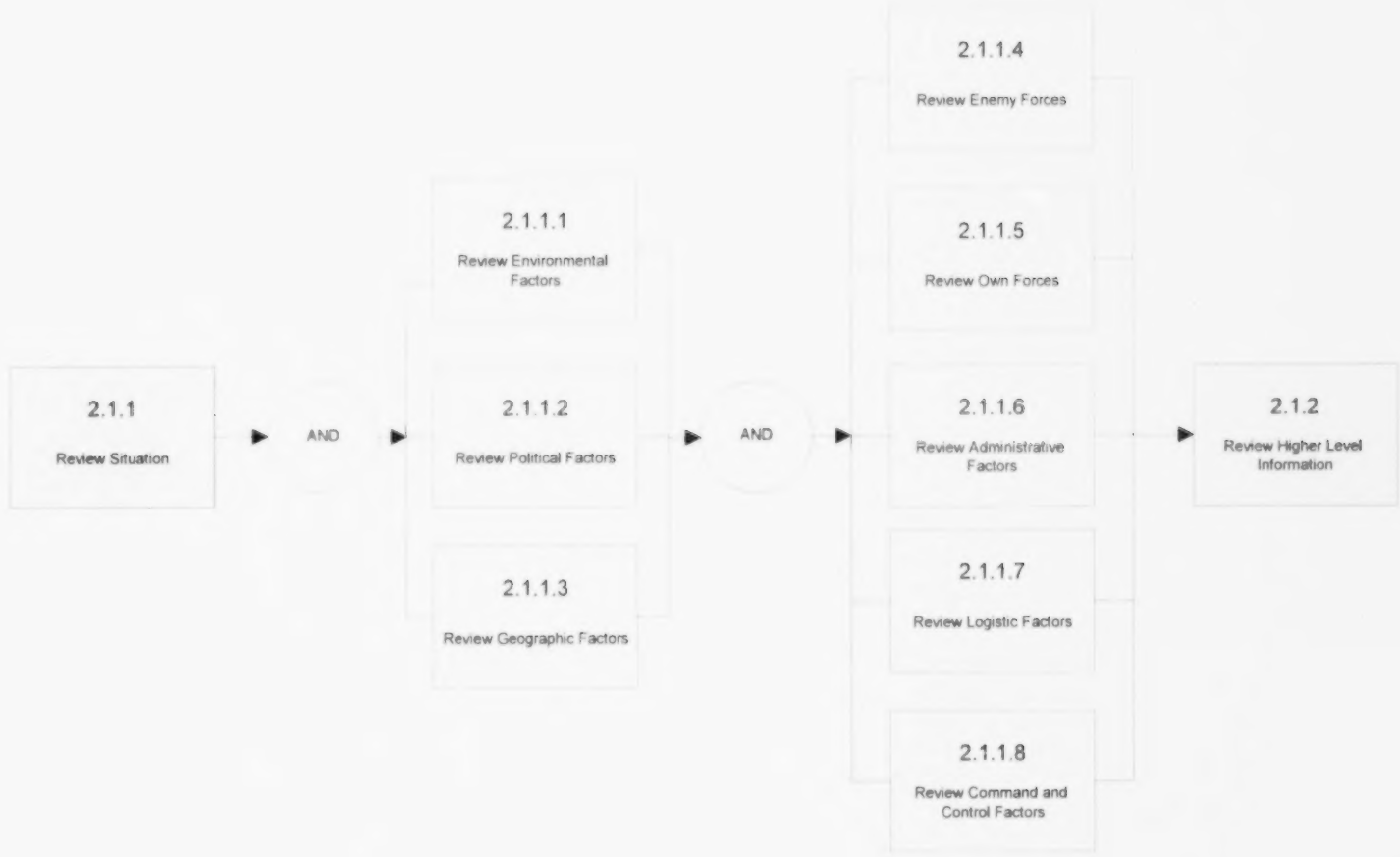
1.2
Activate Planning Staff
1.2.1
Designate Planning Staff
1.2.2
Notify Planning Staff
1.2.3
Activate Planning Staff
1.2.4
Establish Staff Contacts with Higher Formations
1.2.5
Establish Staff Contacts with Subordinate Formations
IF
1) subordinate formations are known
ELSE
1.3
Gather Planning Tools

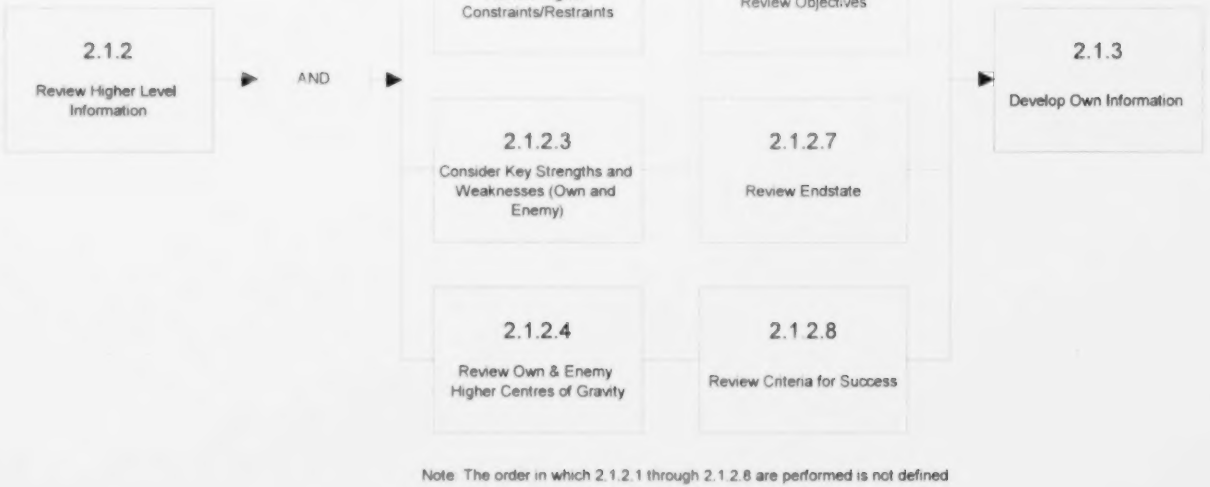
1.3
Gather Planning Tools
AND/OR
1.3.1
Gather Higher Comd's Order or Plan, with Graphics
1.3.2
Gather Maps/Charts and Electronic Geomatic Media on the Area of Operations
1.3.3
Gather SOPs
1.3.4
Gather Appropriate Publications and Documentation
1.4
Issue Guidelines to Staff

1.6
Comd Issues Initial Comd's Guidance
AND/OR
1.6.1
Provide Guidance on how to Abbreviate OPP
1.6.2
Provide Guidance on Initial Time Allocation
1.6.3
Provide Guidance on Liaison Officers to Dispatch
1.6.4
Provide Guidance on Intial Reconnaissance to Begin
1.6.5
Provide Guidance on Authorised Movement
1.6.6
Provide Guidance on Additional Tasks
1.7
Issue Warning Orders to Subordinate/Supporting Formations


2.0
Orientation
2.1
Conduct Mission Analysis
2.2
Develop/Issue Commander's Planning Guidance & Warning Order
2.3
Issue Commander's Planning Guidance
3.0
Course of Action Development


2.1
Conduct Mission Analysis
2.1.1
Review Situation
2.1.2
Review Higher Level Information
2.1.3
Develop Own Information Based on Higher Level Info
2.1.4
Develop Mission Statement
2.1.5
Prepare Mission Analysis Brief
2.2
Develop/Issue Commander's Planning Guidance & Warning Order

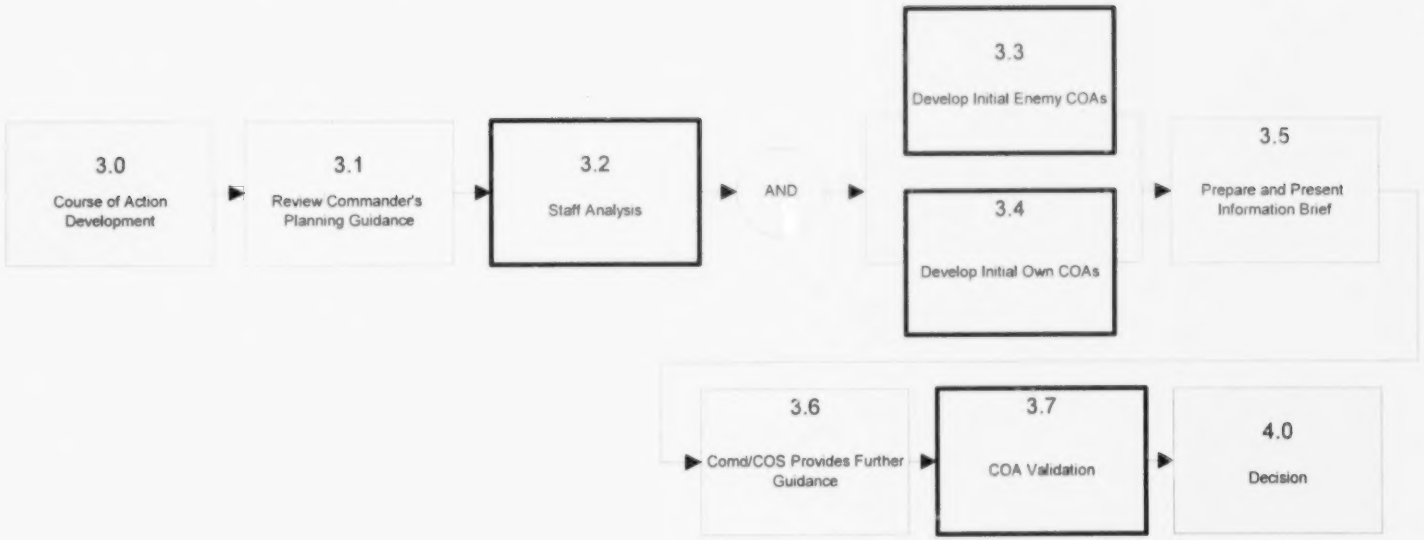

2.1.1
Review Situation
AND
2.1.1.1
Review Environmental Factors
2.1.1.2
Review Political Factors
2.1.1.3
Review Geographic Factors
AND
2.1.1.4
Review Enemy Forces
2.1.1.5
Review Own Forces
2.1.1.6
Review Administrative Factors
2.1.1.7
Review Logistic Factors
2.1.1.8
Review Command and Control Factors
2.1.2
Review Higher Level Information

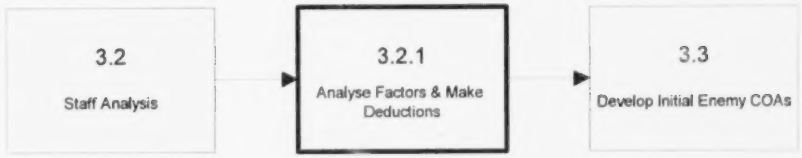


Note: The order in which 2.1.2.1 through 2.1.2.8 are performed is not defined

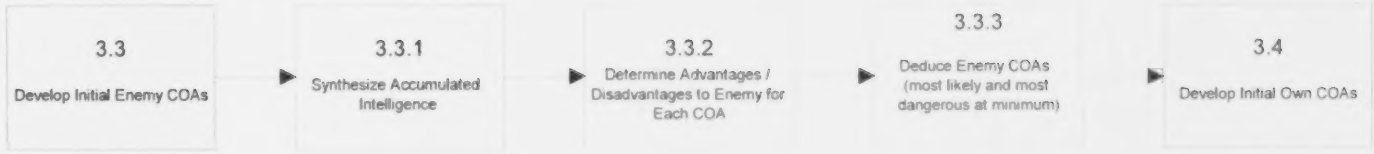
Note: The order in which 2.1.3.5 through 2.1.3.12 are performed is not defined

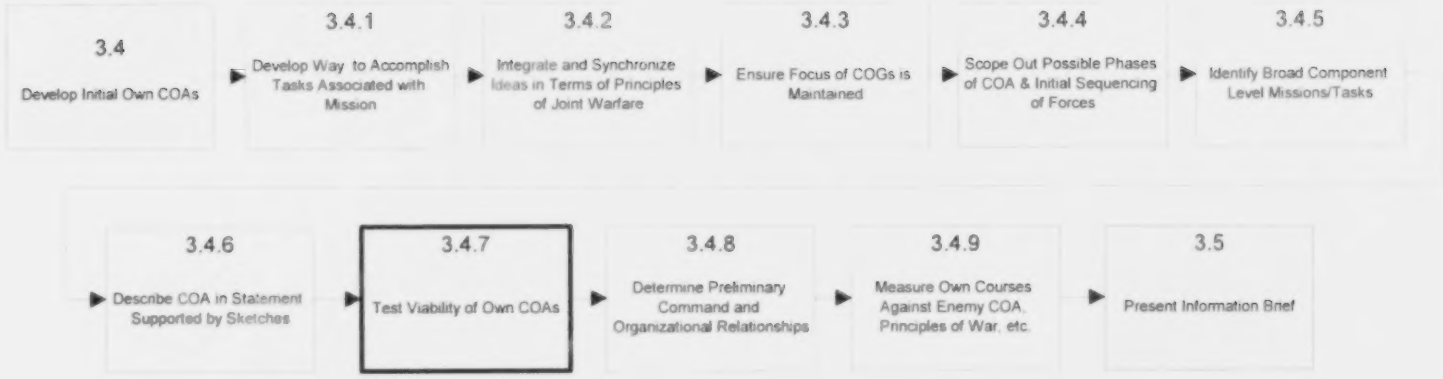
2.1.5
Prepare Mission Analysis Brief
AND
2.1.5.1
Summarise Directives
2.1.5.2
Summarise Decisions
2.1.5.3
Summarise Initial Concerns
2.1.5.4
Describe Mission as Perceived by the Commander
2.1.5.5
Deliver Mission Analysis Briefing
2.1.5.6
Receive Additional Guidance from Commander
2.1.5.7
Finalise Mission Statement
2.2
Develop Commander's Planning Guidance


3.0
Course of Action Development
3.1
Review Commander's Planning Guidance
3.2
Staff Analysis
AND
3.3
Develop Initial Enemy COAs
3.4
Develop Initial Own COAs
3.5
Prepare and Present Information Brief
3.6
Comd/COS Provides Further Guidance
3.7
COA Validation
4.0
Decision


3.2
Staff Analysis
3.2.1
Analyse Factors & Make Deductions
3.3
Develop Initial Enemy COAs

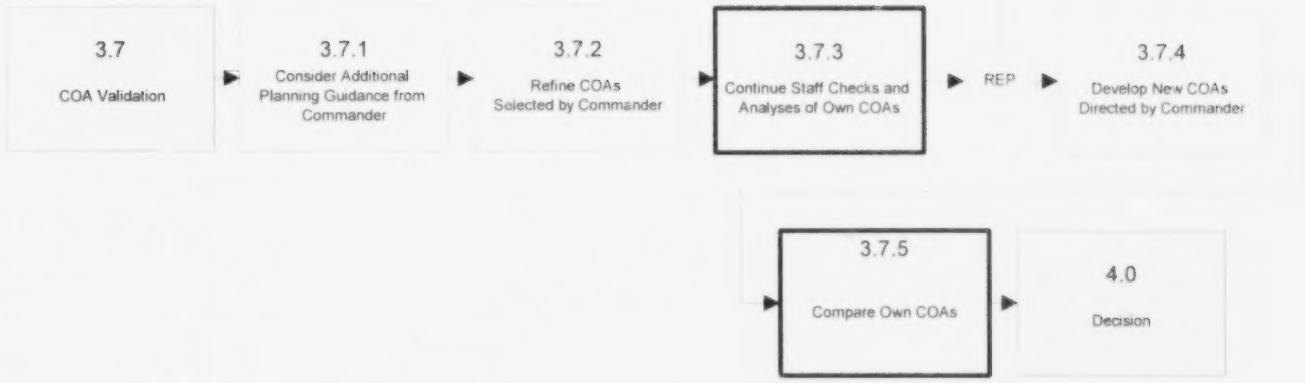
Note: The order in which 3.2.1.1 through 3.2.1.11 are performed is not defined


3.3
Develop Initial Enemy COAs
3.3.1
Synthesize Accumulated Intelligence
3.3.2
Determine Advantages / Disadvantages to Enemy for Each COA
3.3.3
Deduce Enemy COAs (most likely and most dangerous at minimum)
3.4
Develop Initial Own COAs


3.4
Develop Initial Own COAs
3.4.1
Develop Way to Accomplish Tasks Associated with Mission
3.4.2
Integrate and Synchronize Ideas in Terms of Principles of Joint Warfare
3.4.3
Ensure Focus of COGs is Maintained
3.4.4
Scope Out Possible Phases of COA & Initial Sequencing of Forces
3.4.5
Identify Broad Component Level Missions/Tasks
3.4.6
Describe COA in Statement Supported by Sketches
3.4.7
Test Viability of Own COAs
3.4.8
Determine Preliminary Command and Organizational Relationships
3.4.9
Measure Own Courses Against Enemy COA, Principles of War, etc.
3.5
Present Information Brief

Note: 3.4.2 and 3.4.5 are joint-only applications and may not apply specifically to army OPP

3.4.7.1
Assess Suitability of Each COA
3.4.7.2
Assess Feasibility of Each COA
3.4.7
Test Viability of Own COAs
AND
3.4.7.3
Assess Acceptability of Each COA
3.4.8
Determine Preliminary Command and Organizational Relationships
3.4.7.4
Assess Exclusivity of Each COA
3.4.7.5
Assess Completeness of Each COA


3.7
COA Validation
3.7.1
Consider Additional Planning Guidance from Commander
3.7.2
Refine COAs Selected by Commander
3.7.3
Continue Staff Checks and Analyses of Own COAs
REP
3.7.4
Develop New COAs Directed by Commander
3.7.5
Compare Own COAs
4.0
Decision

3.7.3
Continue Staff Checks and Analyses of Own COAs
AND
3.7.3.1
Continue Developing Factors and Deductions
3.7.3.2
Continue to Validate Previous Deductions
3.7.4
Develop New COAs Directed By Commander

Note: Intuitive comparison may be at a tactical level more than operational

4.0
Decision
4.1
Review validation / comparison information
4.2
Prepare and present decision brief
4.3
Comd Selects COA
4.4
Concept of Operations
5.0
Plan Development

5.0
Plan Development
5.1
Further Refine Comd Intent and Concept
5.2
Comd Seeks CONOPS Approval From Higher Authority
5.3
Identify and Resolve Issues/Shortfalls
5.4
Prepare Plan
1) Identified during wargaming
2) Directed by Comd
IF
5.5
Develop Plans for Branches and Sequels if required
ELSE
5.6
Plan Wargame
5.7
Comd Submits Plan to Higher Authority for Approval (as required)
5.8
Revise Plan if Necessary
REP
5.9
Issue Final Plan
6.0
Plan Review
Return to 5.3 Identify and resolve issues/shortfalls as needed

5.6
Plan Wargame
5.6.1
Gather Tools, Materials and Data
5.6.2
List Critical Events and Decision Points
5.6.3
Determine Evaluation Criteria
5.6.4
Select wargame method
5.6.5
Select Method to Record and Display Results
5.6.6
Conduct Wargame and Assess Results
5.6.7
Identify and Develop Branches and Sequels
5.7
Comd Submits Plan to Higher Authority for Approval (as required)

6.0
Plan Review
AND
6.1
Conduct Progress Review of Operation
6.2
Conduct Periodic OPLAN/CONPLAN Review
6.3
Conduct Detailed Exercise/Wargaming
6.4
Reinitiate OPP as Required
6.5
Update and Issue Amendments as Required
6.6
Prepare and Issue Plans as Required
REP

Annex B:
Tabular Task Analysis

The tabular task analysis is intended to supplement the function flow diagrams. It represents a more detailed decomposition of each function in terms of the specific decisions and information requirements that an operator must perform to achieve the function goals. The tabular task analysis identifies the trigger/stimulus, goal(s), information requirements, key decisions, outputs, and staff responsible for each function and sub-function in the OPP. The elements identified in the tabular task analysis were based on previous work (Bryant, 2000) as well as certain components of the doctrine that are not depicted in the function analysis.

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Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
1.0 INITIATION	Initiating directive	Gather info and scope out problem Form planning team	Higher Comd's order or plan	Whether to issue Comd's initial guidance	Comd initial guidance, coordinated and focused staff	Comd/ COS		
1.1 Receive initiating directive						Comd/ COS		Initiating directive may be issued as a Planning Order, Strategic Guidance, Strategic Directive, or Warning Order (Wng O)
1.2 Activate planning staff	Direction of Comd				Tasking to planning staff	Comd/ COS		
1.2.1 Designate planning staff						COS		
1.2.2 Notify planning staff						COS		
1.2.3 Activate planning staff						COS		
1.2.4 Establish staff contacts with higher formations		To get input into planning process from higher formations			Input from higher formations	COS	All staff	
1.2.5 Establish staff contacts with subordinate formations		To get input into planning process from subordinate formations			Input from subordinate formations	COS	All staff	Only done if subordinate formations are known
1.3 Gather planning tools	Planning staff activated	To assemble relevant planning materials for mission analysis	Intelligence, relevant doctrine, maps, charts, SOPs, etc.	Must decide relevant information, materials, etc.	Collection of relevant planning materials	COS	All staff	
1.3.1 Gather higher Comd's order or plan, with graphics								These functions may occur simultaneously
1.3.2 Gather maps/charts and electronic geomatic media on the area of operations								
1.3.3 Gather SOPs								
1.3.4 Gather appropriate publications and documentation								

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Suppo rt Staff	Comments
1.4 Issue guidelines to staff		To direct planning staff on how to apply the planning process for a particular operation		Must decide on most appropriate way to apply planning process		COS/ G5		
1.5 Comd makes initial assessment		To provide an initial allocation of available time to complete the plan				Comd		
1.6 Comd issues initial comd's guidance	Completion of initial assessment	To issue initial direction based on initial assessment	Time available	Comd must decide what initial guidance is important		Comd (may decide not to issue)		Step is optional
1.6.1 Provide guidance on how to abbreviate OPP								Step is optional
1.6.2 Provide guidance on initial time allocation								Step is optional
1.6.3 Provide guidance on liaison officers to dispatch								Step is optional
1.6.4 Provide guidance on initial reconnaissance to begin								Step is optional
1.6.5 Provide guidance on authorized movement								Step is optional
1.6.6 Provide guidance on additional tasks								Step is optional
1.7 Issue warning orders to subordinate/supporting formations		To allow maximum time for subordinate units to conduct their own planning				Comd/ COS		Only done if crisis action planning AND subordinate/ supporting formations are known

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.0 ORIENTATION	Initiating Directive	Helps Comd and staff develop shared vision of the requirements for the coming operation Help identify role and unifying purpose for operation	Geographic & environmental aspects of theatre, higher Comd order, critical factors & assumptions, end state, criteria for success, centre of gravity, objective, situation overview, decision points, ow & enemy strengths and weaknesses, force capabilities, C2 structures, risk, timelines, assigned & implied tasks		Mission Statement Commander's Planning Guidance (CPG) Mission Analysis Briefing			
2.1 Conduct mission analysis	Sup Comd intent Higher Comd mission and concept	To determine nature of problem To confirm results to be achieved		May need to decide to re-start mission analysis if situation changes	Information required to develop mission statement and prepare CPG Mission analysis briefing	Comd / COS	All staff	Brainstorming is an important technique employed during this step
2.1.1 Review situation		To identify boundaries of the problem	See 2.1.1.1 through 2.1.1.8			COS	All staff	
2.1.1.1 Review environmental factors						G2		
2.1.1.2 Review political factors						G2		
2.1.1.3 Review geographic factors						G2		
2.1.1.4 Review enemy forces						G2		Functions are time dependent and based on Comd's decision
2.1.1.5 Review own forces						G3		
2.1.1.6 Review administrative factors						G1		
2.1.1.7 Review logistic factors						G4		
2.1.1.8 Review command and control factors						G3		

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Suppo rt Staff	Comments
2.1.2 Review higher level information		To ensure proper interpretation of higher HQ mission, intent and guidance	See 2.1.2.1 through 2.1.2.8			COS	All staff	Staff must seek clarification immediately if there is confusion in higher level info
2.1.2.1 Review higher critical facts and assumptions								
2.1.2.2 Review higher constraints/restraints								
2.1.2.3 Consider key strengths and weaknesses (own and enemy)								
2.1.2.4 Review own & enemy higher centres of gravity								
2.1.2.5 Review tasks (assigned/implied)								
2.1.2.6 Review objectives								
2.1.2.7 Review end state								
2.1.2.8 Review criteria for success								
2.1.3 Develop own information based on higher level info		To develop information specific to mission	See 2.1.3.1 through 2.1.3.12			COS	All staff	
2.1.3.1 Consider own force capabilities and groupings						G3		Functions may be performed simultaneously
2.1.3.2 Consider own command and control structure required						G3		
2.1.3.3 Assess own risk						G1/G4		
2.1.3.4 Consider own proposed timeline						G3	All staff	
2.1.3.5 Develop own critical factors/assumptions						G3	All staff	Functions may be performed simultaneously
2.1.3.6 Develop own constraints/restraints						G3	All staff	

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.3.7 Develop own & enemy centres of gravity						G2/G3	All staff	
2.1.3.8 Develop own tasks (assigned/implied)						G3		
2.1.3.9 Develop own objectives						G3	All staff	
2.1.3.10 Develop own end states						G3		
2.1.3.11 Develop own criteria for success						G3		
2.1.3.12 Develop own battlespace effects						G3		
2.1.4 Develop mission statement	Completion of mission analysis	To provide a clear, concise statement of the task of the Comd and its purpose Includes task, purpose, unifying statement May include limitations and constraints Use mission task verbs		Must decide on relevant deductions reached during mission analysis	Information required to prepare CPG	G3		
2.1.5 Prepare mission analysis brief	Completion of 2.1-2.4	To allow Comd to provide direction based on mission statement To synchronize staff planning efforts	Mission statement	Must decide which concerns to address	Approved mission statement and initial Comd's intent	COS		
2.1.5.1 Summarize directives								Functions may be performed simultaneously
2.1.5.2 Summarize decisions								
2.1.5.3 Summarize initial concerns								

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
2.1.5.4 Describe mission as perceived by the commander								
2.1.5.5 Deliver mission analysis briefing	Mission statement	To ensure all staff members have shared vision of requirements for upcoming operaiton				COS	All staff	
2.1.5.6 Receive additional guidance from commander						Comd		
2.1.5.7 Finalize mission statement						Comd		
2.2 Develop CPG	Finalized mission statement	To reflect Comd's approval of direction taken			Finalized CPG	G3		
2.3 Issue CPG	Finalized CPG	To provide a common and clear focus for all subsequent and subordinate planning by staff				Comd's HQ		
3.0 COURSE OF ACTION DEVELOPMENT	CPG, mission analysis brief, approved mission statements	To match operation to relevant aspects of ground and weather, and civil and political and military situations	Critical factors & deductions, CPG, Knowledge of terrain, desired effect and friendly forces available	COAs consist of CONOPS (Comd intent, scheme of manoeuvre, main effort and end state), sketch or graphic, and risk (advan/disadvan)	information brief, proceed with plan development OR develop COA into a CONOPS for approval	G3 Plans	G1, G4, G2, G5	Each COA must be significantly different from the others Create as many COAs as time allows
3.1 Review Commander's Planning Guidance	CPG	To ensure common understanding of Comd intent To ensure COA developed in accordance with Comd guidance				G3		

Tabular Task Analysis

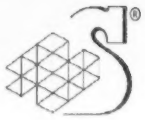
Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.2 Staff analysis	Common understanding of Comd's intent, mission statement, CPG	To identify factors and derive deductions relevant to operation being planned; determine whether mission is achievable based on limitations imposed by higher authorities		Staff must decide which deductions are relevant and which should be dismissed	Revised list of factors and deductions relevant to operation being planned	COS	All staff	Staff analysis is an iterative process
3.2.1 Analyze factors & make deductions		To synthesize intelligence; determine advantages and disadvantages for each COA			Updated factors & deductions	COS	All staff	
3.2.1.1 Analyze area of operations			Physical elements such as topography, oceanopgraphy, meteorology, etc.			G2		
3.2.1.2 Analyze opposing force capabilities			Intelligence such as C2, leadership, doctrine, morale, NBCW capability, etc.			G2		
3.2.1.3 Analyze political considerations						G2	G9 - if available	
3.2.1.4 Analyze own force capabilities						G3		
3.2.1.5 Analyze time and space			Impact of timelines, weather, force readiness, etc.			G3		

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.2.1.6 Analyze command and control			Superior, subordinate and supporting formations C2 arrangements			G3		
3.2.1.7 Analyze logistics and movement						G4, G3		
3.2.1.8 Analyze rules of engagement						G3		
3.2.1.9 Analyze conflict termination						G3		
3.2.1.10 Analyze risk		To analyze risk in terms of the mission itself, force protection requirements, level of risk task force is willing to accept, risk determined by staff				G3		
3.2.1.11 Analyze assigned/implied tasks		To make deductions based on tasks derived from initiating directive and verbal/written direction given to or from Comd				G3		
3.3 Develop initial enemy COAs	Accumulated intelligence from staff analysis	To synthesize intelligence from staff analysis; Deduce enemy COAs; sets the stage for development of own COAs	Accumulated intelligence from staff analysis	Are the COAs significantly different from one another?	At a minimum, most likely and most dangerous enemy COAs	G2		Initial enemy COAs may be developed first or simultaneously with own COAs

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.3.1 Synthesize accumulated intelligence								
3.3.2 Determine advantages/disadvantages to enemy for each COA								
3.3.3 Deduce enemy COAs (most likely and most dangerous at minimum)								
3.4 Develop initial own COAs	Accumulated intelligence from staff analysis	To use accumulated intelligence to generated own COAs; To test viability of each COA	Accumulated intelligence from staff analysis	Are the COAs significantly different from one another?	At a minimum, initial COAs for most likely and most dangerous enemy COAs	G3		Initial own COAs may be developed simultaneously with or after enemy COAs
3.4.1 Develop way to accomplish tasks associated with mission								
3.4.2 Integrate and synchronize ideas in terms of principles of joint warfare								
3.4.3 Ensure focus of COGs is maintained								
3.4.4 Scope out possible phases of COA & initial sequencing of forces								
3.4.5 Identify broad component level missions/tasks								
3.4.6 Describe COA in statement supported by sketches								
3.4.7 Test viability of own COAs	COA statement with sketches	To evaluate own COAs in a manner in which they can be easily compared			Evaluation of viability of each own COA	G2, G3, G4, G5		



Tabular Task Analysis

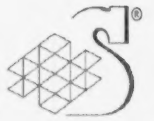
Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.4.7.1 Assess suitability of each COA						COS	All staff	Functions may be performed simultaneously
3.4.7.2 Assess feasibility of each COA						COS	All staff	
3.4.7.3 Assess acceptability of each COA						COS	All staff	
3.4.7.4 Assess exclusivity of each COA						COS	All staff	
3.4.7.5 Assess completeness of each COA						COS	All staff	
3.4.8 Determine preliminary command and organizational relationships						G3		
3.4.9 Measure own courses against enemy COA, principles of war, etc.						COS	All staff	
3.5 Prepare and present information brief	Enemy and own COAs	To formally advise Comd / COS of enemy and friendly COAs under consideration by staff			COAs approved by Comd for further development	COS		
3.6 Comd/COS provides further guidance	Information brief	To identify COAs that need to be developed further				COS	All staff	
3.7 COA validation	Further direction from Comd (outcome of information brief)	To further develop COAs or develop new COAs based on outcome of information brief	Further guidance from Comd	Whether to develop new COAs based on Comd further guidance	Refined/finalised COAs in preparation for COA comparison	COS, G5, G2, G3		
3.7.1 Consider additional planning guidance from commander	Further Comd guidance following information brief					G3		
3.7.2 Refine COAs selected by commander						G3		
3.7.3 Continue staff checks and analyses of own COAs						G3		

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.7.3.1 Continue developing factors and deductions								Functions may be performed simultaneously
3.7.3.2 Continue to validate previous deductions								
3.7.4 Develop new COAs directed by Commander						G3		
3.7.5 Compare own COAs		To use criteria comparison, intuitive comparison or wargaming to compare COAs for Comd				G3 / COS	G2, G2 scribe, G3, G3 scribe, G3 plans, G4, combat function reps	
3.7.5.1 Criteria comparison	Own COAs	To compare own COAs based on selected criteria		Which COA(s) to abandon and retain	Recommended own COA	G3, G2, G4, COS		Function performed only if time is too limited for wargaming
3.7.5.2 Select and create matrix comparison	Own COAs					G3	G2, G4, COS	
3.7.5.3 Intuitive comparison	Own COAs	To select most appropriate own COA based on experience of Comd and staff		Which COA(s) to abandon and retain	Recommended own COA	Comd / COS		Function performed only if time is too limited for wargaming and Comd experience is high; May be more at tactical level than operational
3.7.5.4 Wargaming	Determination of time allocation, identification of COA to be wargamed and selection of type of wargame (by COS)	To "play out" own COAs in order to evaluate each COA with respect to each enemy COA		Which COA(s) to abandon and retain	Recommended own COA	COS	All staff	Function performed only if time is not a constraint

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
3.7.5.5 Gather tools, materials and data						COS	All staff	
3.7.5.6 List critical events and decision points						COS	All staff	
3.7.5.7 Determine evaluation criteria						COS	All staff	
3.7.5.8 Select wargame method		To select most appropriate wargame method: the belt, the avenue-in depth or the box (Canadian Forces College, 2001)				COS		Belt, avenue-in-depth, and box wargaming methods are described in Canadian Forces College (2001)
3.7.5.9 Select method to record and display results						COS		
3.7.5.10 Conduct wargame and assess results		To identify COA strengths and weaknesses, confirm decisive points, refine location and timing of decision points, etc.				COS	All staff	
3.7.5.11 Identify branches and sequels		To identify opportunities for contingency and subsequent operations			Branch and sequel opportunities	G3	All staff	Depends on operational situation Decided by Comd
4.0 DECISION	COA comparison information	To present results of COA comparison to Comd	COA comparison information	Decision on which COA to recommend in decision brief	Decision brief, selected COA	COS	All staff	If time is limited, the decision step can be integrated with COA development (3.0)
4.1 Review validation/comparison information								



Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
4.2 Prepare and present decision brief	COA validation/comparison information	To present (to Comd) comparison of each COA as well as staff's recommendation for best COA				COS		
4.3 Comd selects COA	Decision brief	To identify a COA for staff to translate into a CONOPS		Must decide which COA is most appropriate to achieve misison	Selected COA	Comd/ COS		
4.4 Concept of Operations	COA selected by Comd	To produce a formal written product to be used by lower formations and staff as a basis for further planning			Concept of operations	G3	All staff	CONOPS is a clear, concise statement of the line of action chosen by Comd in order to accomplish mission
5.0 PLAN DEVELOPMENT	Comd selected COA, CONOPS	To develop and coordinate the production and approval of operations plan designed to achieve political and strategic objectives	Comd intent and concept, issues/shortfalls		Approved Campaign Plan / OPLAN / Op Order, Attack guidance matrix, Decision support matrix, Decision support template	C3	All staff	Plan may take form of Op order in time-sensitive environment
5.1 Further refine Comd intent and concept						Comd/ COS		
5.2 Comd seeks CONOPS approval from higher authority						Comd/ COS		

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
5.3 Identify and resolve issues/shortfalls			Issues previously identified such as those associated with ROE, conflict termination, dealing with NGO's, etc. Shortfalls previously identified such as types and quantities of forces, strategic lift, recce assets, etc			COS	All staff	
5.4 Prepare plan		To consolidate, collate and manipulate information into a complete, coherent and clear expression of the plan				COS	All staff	
5.5 Develop plans for branches and sequels if required	Approved plan	To develop branch and sequel plans for selected plan		Comd decides if branch and sequel plans required	Branch and sequel plans	G3		Function performed only if branches/sequels identified during wargaming AND if directed by Comd
5.6 Plan wargame	Approved plan	To identify time, space and synchronization issues with selected COA/plan To identify branches and sequels if required				COS	All staff	

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
5.6.1 Gather tools, materials and data						All staff		
5.6.2 List critical events and decision points				Must determine critical events and decision points to include and exclude		COS		
5.6.3 Determine evaluation criteria				Must decide on plan evaluation criteria		COS		
5.6.4 Select wargame method		To select most appropriate wargame method: the belt, the avenue-in depth or the box		Must decide on wargame method		COS		
5.6.5 Select method to record and display results						COS		
5.6.6 Conduct wargame and assess results		To identify plan strengths and weaknesses, confirm decisive points, refine location and timing of decision points, etc.				COS	All staff	
5.6.7 Identify branches and sequels		To identify additional resources and forces required for contingency and subsequent operations	Original mission analysis		Branch and sequel plans	G3	All staff	Depends on operational situation Decided by Comd
5.7 Comd submits plan to higher authority for approval (as required)		To obtain authorization for plan from higher authority			Approved plan	Comd / COS	All staff	Vertical and horizontal staff dialogue ishould be maintained throughout th eprocess

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Support Staff	Comments
5.8 Revise plan if necessary						G3	All staff	Return to 5.3 until all issues/shortfalls identified and resolved
5.9 Issue final plan	Approved plan	To communicate plan to formations and staffs that will be responsible for its execution – can be verbal or written			Final plan	COS	All staff	Plan can only be initiated on the order of higher authority by an Implementation Order (Impl O) or Op O
6.0 PLAN REVIEW	Final plan	To regularly review plan / OP Order in order to evaluate its viability	Evolving operational conditions	Must decide whether to reinitiate OPP if situation changes	Updated / new campaign plan / OPLAN / CONPLAN / OP Order	COS	All staff	Plan review is repeated until strategic and operational objectives have been accomplished
6.1 Conduct progress review of operation		To confirm relevance of plan and identify whether update action is required	Branch and sequel plans Changes in situation, new threats, etc.		Additional plans or revised original plan, if required	COS	All staff	Functions may be performed simultaneously
6.2 Conduct periodic OPLAN/CONPLAN review		To ensure that contingency operations plan remains valid	Changes in situation, new threats, etc.		Modified OPLAN/CONPLAN if required	G3	All staff	
6.3 Conduct detailed exercise / wargaming	Current plan (may have been modified)	To gain detailed knowledge on effectiveness of plan to achieve desired results To identify changes to plan that may be required	Current plan (may have been modified)	Must decide which method of wargaming is most effective in current situation	Advantages / disadvantages of current plan for current situation	COS	All staff	Costly in terms of resources
6.4 Reinitiate OPP as required	Changes to plan are required		Results of progress and periodic review and wargaming		Reinitiation of planning process from Orientation step	COS	All staff	If time is limited, planning process may be abbreviated

Tabular Task Analysis

Function	Trigger / stimulus	Goals	Info requirements	Key decisions	Outputs	Lead Staff	Suppo rt Staff	Comments
6.5 Update and issue amendments as required				Comd must determine need to seek approval for changes		COS	G3	Approval of higher authority may not be required with minor changes
6.6 Prepare and issue plans as required	Significant changes to plan are required	To issue new plans, if required, based on necessary changes		Must decide whether to reinitiate process depending on significance of changes	New plan if required	COS	All staff	Return to 6.0 and repeat plan review process

Annex C:
15 Steps of Battle Procedure

15 Steps of Battle Procedure

1. Receive warning order
2. Conduct quick map study and time estimate
3. Receipt of orders
4. Conduct mission analysis
5. Issue initial warning order
6. Make a detailed time estimate
7. Conduct a map study and prepare an outline plan
8. Prepare a reconnaissance plan
9. Conduct reconnaissance
10. Do remainder of estimate
11. Issue a supplementary warning order
12. Prepare and issue orders
13. Coordinate activities and requirements of subordinates
14. Supervise deployment
15. Execute the mission

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List of Acronyms

ASC	Army Simulation Centre
C2	Command and Control
CF	Canadian Forces
CFC	Canadian Forces College
CJTL	Canadian Joint Task List
CLFCSC	Canadian Land Force and Staff College
COA	Course of Action
DAD	Directorate of Army Doctrine
HQ	Head Quarters
JTF	Joint Task Force
OPP	Operations Planning Process
NDHQ	National Defence Head Quarters
NATO	North Atlantic Treaty Organisation
TFC	Task Force Commander
TF	Task Force

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14. ABSTRACT

(U) The purpose of this project is to perform an historical/organizational analysis of the Land Force Operations Planning Process (OPP) with a focus on the brigade level. Specifically, this project documents the OPP as established in doctrine and taught by the Land Force, describe contexts in which the OPP is applied, and identify factors that constrain the application of the OPP.
This report is divided into five sections. The first section defines the context of this report by outlining background information, the purpose of the project, tasks to be performed, and the approach taken in this report. In the second section, the methodology used to perform the historical/organizational analysis is described. The results of this analysis are presented in the third section of this report. Specifically, this includes a basic orientation of the OPP, a description of the function analysis of the OPP, a comprehensive explanation of OPP application contexts and constraints, a brief discussion of the relationship between operational context and the OPP function analysis, and general observations made with respect to doctrinal OPP. Finally, conclusions and recommendations for future work are presented in the fourth and fifth sections of the report, respectively. Function flow diagrams of the OPP are presented in Annex A, and a tabular task analysis of the OPP, describing the initiating stimulus, goals, information requirements, key decisions outputs, and responsible staff (if this information is available) is provided in Annex B. A supplemental description of the 15 steps of Battle Procedure is provided in Annex C.

(U) Ce projet a pour but l'analyse historique/organisationnelle du processus de planification opérationnelle (PPO) de la Force terrestre, plus précisément au niveau de la brigade. En fait, ce projet permet de se documenter sur le PPO tel qu'il a été établi dans la doctrine et enseigné par la Force terrestre, décrit les contextes dans lesquels le PPO est appliqué et identifie les facteurs restreignant l'application du processus.
Ce rapport se compose de cinq sections. La première section définit le contexte par une mise en évidence des renseignements généraux, du but du projet, des tâches à effectuer et de l'approche prise pour ce rapport. La seconde partie porte sur la méthodologie utilisée lors de l'analyse historique/organisationnelle. On trouve à la troisième section les résultats de cette analyse, l'orientation de base du PPO, une description de l'analyse du PPO, une explication globale des contextes et des contraintes de mise en œuvre du processus, un bref exposé sur la relation entre le contexte opérationnel et l'analyse des fonctions du PPO ainsi que les observations générales concernant le PPO doctrinal. Enfin, les conclusions et les recommandations quant aux travaux à venir constituent respectivement les sections quatre et cinq de ce rapport. L'annexe A présente des diagrammes de fonctions du PPO. L'annexe B comprend une analyse tabulaire des tâches du PPO; elle décrit le stimulus déclencheur, les buts, les besoins en renseignements, les résultats clés de décisions et le personnel responsable (si l'information est disponible). Une description supplémentaire des 15 étapes de la procédure de combat constitue l'annexe C.

15. KEYWORDS, DESCRIPTORS or IDENTIFIERS

(U) Land Force Operations Planning Process (OPP); Land Force; Canadian Forces; Command and Control